Metadata form FINAL 8/7/98

Data Used in the Clean Water Action Plan Unified Watershed Assessment

Name of Data Layer: **SAV Habitat Requirement Attainment**

Definition (General Description): Using 1994 to1996 data, CBP Bay segments passing, failing and borderline to the habitat requirements for SAV (Batiuk *et al.*, 1991) were assessed.

Data Source: Maryland Department of Natural Resources Tidal Water and Habitat Quality Monitoring Program

Data Type: Condition _X_ Stressor ____ Vulnerability ____ Trend ____ Growth ____
Other _____

Method of Calculation: Using 1994 to 1996 data, CBP bay segments passing, failing and borderline to the habitat requirements for SAV (Batiuk *et al.*, 1991) were assessed. Each parameter was weighted as to its importance to SAV and passing failing and borderline value were assigned by the following scale:

Parameter	Passing	Borderline	Failing
Secchi depth	2	1	0
Dissolved inorganic nitrogen	1	0.5	0
Dissolved inorganic phosphorus	1	0.5	0
Chlorophyll *a*	1	0.5	0
Total suspended solids	1	0.5	0

The values were summed and divided by the total score possible (six in mesohaline and polyhaline areas, and five in tidal fresh and oligohaline since dissolved inorganic nitrogen is not a habitat requirement in these areas). The quotient was then multiplied by 10 to yield a value between 0 and 10. If the index was less than 1 then it was changed to a value of 1. With a few exceptions (see "Methods used for Tidal Water Quality, SAV, Benthic IBI and Fish IBI data consolidation for the INRA/UWA project" for more information), the mean of the indices for the bay segments were pooled together and used.

For the UWA, watersheds are placed in Category I (needs restoration) if they are scored less than 7. Watersheds are placed in Category II (needs preventative action) if they are scored 7 or higher, which is only possible if secchi depth is at least "borderline" **and** at least 3 of the remaining 4 (in mesohaline and polyhaline areas) or 2 or the remaining 3 (in tidal fresh and oligohaline areas) other habitat requirements are "passing" **and** the last one at least is "borderline". **Please note:** the numbers in the table above are used to score the individual segments as a first step, which is then standardized to a scale of 1 to 10 by dividing the initial

score by the number of habitat requirements that apply (in some areas only four habitat requirements apply; dissolved inorganic nitrogen habitat requirements do not apply in tidal fresh and oligohaline areas). The score of 7 is the standardized score which was reported for the data layer. Because no system is considered to be pristine, none of the watersheds are placed in Category III (pristine watersheds).

Watershed Scale: Tributary Strategy Region[1] ____ USGS 8 Digit ____ MD 6 Digit ____
MD 8 Digit _X_ MD 12 Digit ____ Adaptable to Any Scale ____Other For some watersheds, the index score is an extrapolated value due to the nature of the measurements. SAV Habitat requirements are assessed for Chesapeake Bay Program segments, which include more than a single 8-digit watershed. In such cases, all 8-digit watersheds that are included within a given Bay Segment are given the same SAV Habitat Requirement Score, even if the watershed does not actually include a water quality monitoring station.

Data Custodian: Tidewater Ecosystem Assessments/RAS/DNR

Clean Water Goal: Yes ____ No _X_
If Yes: Description of Goal _____

Other Natural Resource Goal: Yes _X_ No ____
If Yes: Benchmark Goal _X_ Relative Goal ___
If Benchmark Goal - Description of Benchmark SAV Habitat Requirements

Assumptions _____
_____

Comments: *Problems encountered with INRA SAV Indices*:

- Due to time constraints, we were not able to perform 1997 SAV habitat requirement attainment analyses. For future work, the most recent year's water quality data will be used.

- We are unable to resolve SAV habitat requirement data to watershed level, as most individual watersheds have no data. Future analyses may improve resolution in areas that have multiple stations per bay segment.

- A fundamental, not easily resolved problem deals with data obtained in tributaries that have multiple bay segments (Patuxent, Potomac, and Choptank Rivers) as the bay segments upstream influence those downstream. For this analysis, we chose to obtain a mean for all segments and apply this value to all sheds draining into the tributary. There has to be a better way to do this. Also how should we handle data collected from the mainstem of the Chesapeake Bay?

[1]The Youghiogeny watershed and the Coastal Bays region are considered to be Tributary Strategy Regions for the purposes of this program

References: see “Methods used for Tidal Water Quality, SAV, Benthic IBI and Fish IBI data consolidation for the INRA/UWA project” for more information;

Batiuk et al. 1991. Submerged Aquatic Vegetation Habitat Requirements and Restoration Targets: A Technical Synthesis. Chesapeake Bay Program. Annapolis, Maryland. 186 p.